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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,630	12/05/2003	Nak-Won Heo	9898-323	9080

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EXAMINER

LAM, TUAN THIEU

ART UNIT PAPER NUMBER

2816

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/728,630

Applicant(s)

HEO ET AL.

Examiner

Tuan T. Lam

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. Figures 2-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the recitation of "capable of" in lines 2, 4, 6 and 8 is indefinite because it is not a positive recitation. It is suggested to change "capable of" to --for--.

In claim 4, the recitation of "capable of" in lines 2 and 4 is indefinite because it is not a positive recitation. It is suggested to change "capable of" to --for--.

In claim 5, the recitation of "capable of" in lines 2, 4, 6 and 8 is indefinite because it is not a positive recitation. It is suggested to change "capable of" to --for--.

Art Unit: 2816

In claim 6, the recitation of “capable of” in lines 2, 4, 6, 8 and 10 is indefinite because it is not a positive recitation. It is suggested to change “capable of” to --for--.

In claim 8, the recitation of “capable of” in lines 4-6 and 8 is indefinite because it is not a positive recitation. It is suggested to change “capable of” to --for--. The recitation of “a pull up signal” in line 4, “a pull down signal” in line 5 is indefinite because it is unclear as to if these pull up signal and pull down signal are the same as or are different from the pull up and pull down control signals as recited in line lines 2-3. Clarification is required.

In claim 11, the recitation of “capable of” in lines 2-4 and 6 and 8 is indefinite because it is not a positive recitation. It is suggested to change “capable of” to --for--.

In claim 12, the recitation of “capable of” in lines 2 and 4 is indefinite because it is not a positive recitation. It is suggested to change “capable of” to --for--.

In claim 13, the recitation of “capable of” in lines 2, 4, 5 and 7 is indefinite because it is not a positive recitation. It is suggested to change “capable of” to --for--. The recitation of “the second clock signal” in line 8 lacks proper antecedent basis.

In claim 14, the recitation of “capable of” in lines 2, 3, 5 and 7-8 is indefinite because it is not a positive recitation. It is suggested to change “capable of” to --for--. The recitation of “the first clock signal” and “the second clock signal” in lines 6 and 9 lacks proper antecedent basis.

Claims 2-3, 7, 9-10 and 15 are indefinite because of the technical deficiencies of claims 1 and 8.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2816

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 8, 11-12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim (USP 6,198,674). Figure 9 of Kim shows a circuit comprising a data strobe buffer (908) capable of generating a data strobe signal responsive to pull up and pull down control signals (pu, pd), a first latch (518a of 906a of figure 11) capable of latching a pull up signal at a first node (output of the transfer gate (516a), a second latch (518b of 906b having an identical structure as of 906a shown in figure 11) capable of latching a pull down signal at a second node (output of the transfer gate 516b of 906b), a first logic circuit (inverters connected to the transfer gate 516a and the transfer gate 516a) capable of generating the pull up signal responsive to an even data control signal (pcnt, pcntz are even data control signal to 906a), and a preamble control signal (output of the preamble signal control circuit 902 shown in figure 9), a second logic circuit (inverters connected to the transfer gate 516a and the transfer gate 516a of 906b) capable of generating the pull up signal responsive to an odd data control signal (pcnt, pcntz are odd data control signal applied to 906b) as called for in claims 8 and 12.

Regarding claim 11, figure 8 shows the data strobe buffer comprises a first inverter (404a), a second inverter (404b), a pull up transistor (transistor receives signal up2b) generating the data strobe signal (dqs) responsive to the inverted pull up signal, a pull down transistor (transistor receives signal dn2) generating the data strobe signal (dqs) responsive to the inverted pull down signal.

Regarding claim 15, the data strobe signal required in a read operation (read command), data strobe signal generated in responsive to the even, odd control data and the preamble control

Art Unit: 2816

signals, therefore, it is inherently that the even, odd control data and the preamble control signals operate in responsive to the read command.

***Allowable Subject Matter***

5. Claims 1-7 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

6. Claims 9, 10, 13 and 14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: Kim reference fails to teach or fairly suggest the first logic unit generating the preamble responsive to a first pulse of the first clock signal, the data strobe signal is in a high impedance state responsive to a last pulse of the first clock signal as called for in claim 8, first and second logic circuits operates responsive to first and second clock signals as called for in claim 9, first logic circuit comprises logic gate, an inverter, first and second clock signals as called for in claims 13 and 14.

***Conclusion***

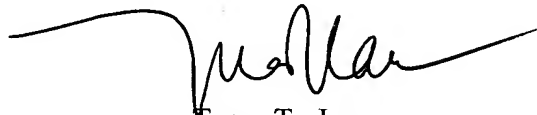
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Lam whose telephone number is 571-272-1744. The examiner can normally be reached on Monday to Friday (7:30 am to 6:00pm).

Art Unit: 2816

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY P CALLAHAN can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tuan T. Lam', with a long horizontal stroke extending to the left.

Tuan T. Lam  
Primary Examiner  
Art Unit 2816

1/12/2005